

What is claimed is:

1. An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:
 - (a) a polynucleotide having at least a 70% identity to a polynucleotide encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or 4;
 - (b) a polynucleotide which is complementary to the polynucleotide of (a);
 - (c) a polynucleotide having at least a 70% identity to a polynucleotide encoding the same mature polypeptide expressed by the metS gene contained in the Streptococcus pneumoniae of the deposited strain; and
- 10 (d) a polynucleotide comprising at least 15 sequential bases of the polynucleotide of (a), (b) or (c).
2. The polynucleotide of Claim 1 wherein the polynucleotide is DNA.
3. The polynucleotide of Claim 1 wherein the polynucleotide is RNA.
4. The polynucleotide of Claim 2 comprising the nucleic acid sequence set forth 15 in SEQ ID NO:1 or 3.
5. The polynucleotide of Claim 2 comprising nucleotide 1 to 1995 set forth in SEQ ID NO:1.
6. The polynucleotide of Claim 2 which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or 4.
- 20 7. A vector comprising the polynucleotide of Claim 1.
8. A host cell comprising the vector of Claim 7.
9. A process for producing a polypeptide comprising: expressing from the host cell of Claim 8 a polypeptide encoded by said DNA.
10. A process for producing a metS polypeptide or fragment comprising 25 culturing a host of claim 8 under conditions sufficient for the production of said polypeptide or fragment.
11. A polypeptide comprising an amino acid sequence which is at least 70% identical to the amino acid sequence of SEQ ID NO:2 or 4.
- 30 12. A polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:2.
13. An antibody against the polypeptide of claim 11.
14. An antagonist which inhibits the activity or expression of the polypeptide of claim 11.

15. A method for the treatment of an individual in need of metS polypeptide comprising: administering to the individual a therapeutically effective amount of the polypeptide of claim 11.

16. A method for the treatment of an individual having need to inhibit metS 5 polypeptide comprising: administering to the individual a therapeutically effective amount of the antagonist of Claim 14.

17. A process for diagnosing a disease related to expression or activity of the polypeptide of claim 11 in an individual comprising:

- (a) determining a nucleic acid sequence encoding said polypeptide, and/or
- 10 (b) analyzing for the presence or amount of said polypeptide in a sample derived from the individual.

18. A method for identifying compounds which interact with and inhibit or activate an activity of the polypeptide of claim 11 comprising:

contacting a composition comprising the polypeptide with the compound to be 15 screened under conditions to permit interaction between the compound and the polypeptide to assess the interaction of a compound, such interaction being associated with a second component capable of providing a detectable signal in response to the interaction of the polypeptide with the compound;

and determining whether the compound interacts with and activates or inhibits an 20 activity of the polypeptide by detecting the presence or absence of a signal generated from the interaction of the compound with the polypeptide.

19. A method for inducing an immunological response in a mammal which comprises inoculating the mammal with metS polypeptide of claim 11, or a fragment or variant thereof, adequate to produce antibody and/or T cell immune response to protect said 25 animal from disease.

20. A method of inducing immunological response in a mammal which comprises delivering a nucleic acid vector to direct expression of metS polypeptide of claim 11, or fragment or a variant thereof, for expressing said metS polypeptide, or a fragment or a variant thereof *in vivo* in order to induce an immunological response to produce antibody 30 and/ or T cell immune response to protect said animal from disease.